

REMARKS

The various objections to the claims under 35 USC 112 have been complied with and applicants believe that the claims are now compliant with 35 USC 112.

Formal drawings are enclosed herewith that are believed to satisfy all requirements.

It will probably help to clarify what the inventors perceive as an important benefit of their invention - that it calculates the annotation on the model in a way that is computationally simple.

The specification cites a method of calculating a curved path on a surface that is known to be computationally expensive. The inventors do not claim to be the first to calculate a path on the surface (or approximating the surface) of a computer model, but maintain that their simple, economical method is non-obvious.

The rejection of claims 1 - 6 under 35 USC 103 is respectfully traversed.

It is settled that references may not be combined if they are inconsistent - i.e. the implementation of one reference would interfere with the implementation or objectives of another reference.

Accordingly, Applicants maintain that it is not proper to make the combination cited by the examiner. The Rose (RO) reference teaches annotating in the sense of displaying a text label on a video image. Figure 3.1 of RO shows a video camera that records an image that is annotated and displayed according to RO's method. There is no model surface in RO and no lines that closely follow a surface.

The KA reference teaches a computationally intensive method of calculating accurately the length along a surface of a human figure (which is known to be much harder to represent than a plane, cylinder or other simple geometric shape). The examiner's attention is called to the equations in columns 22, 23 and 24, showing functions for calculating derivatives and for converting to spherical coordinates that clearly require much computation.

Accordingly, Applicants maintain that the combination of RO and KA is inconsistent, since the video of RO does not provide the foundation for the calculations of KA, since there is no computer scan data for KA to put into his computer model and no computer model for KA to apply his mathematical techniques to.

Applicants also maintain that the combination of KA and KU is inconsistent. KA, as discussed above, calculates an accurate number for the length along the surface of various lines extending over his model. In particular, KA has a 3-D model already. KA could very easily calculate a 2-D view of his model, but that would be a waste of time

for him. KA is interested in data for making custom clothes, in which the numbers are of interest, not a 2-D view.

KU starts with the raw data and generates the 2-D view without generating a 3-D model.

The examiner's attention is called to CL 1, L47 s CL2, L 4 ,in which KU points out that the rationale for his invention is saving computation time to generate a 2-D view (without geometric annotations like those of the invention) directly from the 3-D raw data.

Thus, applying KU to KA would defeat the purpose of KU, which is to avoid forming the computer model.

Further, the KA reference is inconsistent with the claims, in that the claims require that the vertices of the annotation edge are projected onto the model surface, while KA specifies the opposite - the vertices of the model surface are projected on the standard plate CL 25, L 42 - 45. The examiner has cited a passage in the same column (CL 25, L35 - 40) that refers to a subsequent step - after the vertices have been established, points in between are projected from the standard plate to the model surface.

Claims 1, 5 and 6 have been amended to better distinguish the present invention from the references.

As amended, the claims require that the cutting plane is formed by one of two methods. Applicants have inserted this limitation to distinguish this cutting plane, which produces an annotation line that is close to a perpendicular to the surface from cutting planes that slice through a 3-D model to produce a cross section.

In the last clause, the projected vertices are reconnected by summing the various lines that pass through the pre-existing polygons in the computer model. This limitation distinguishes a complex computationally intensive method such as KA from the simple, economical method addressed by the claims.

In summary, the claims address a method that is a collection of steps (as are all methods), some of which are known in various forms. Applicants maintain that the claims, taken as a whole, are non-obvious and that it is not proper to reject the claims on selected portions of other references that are not addressing the same problem and would not be consulted by a worker in the field trying to construct a computationally economical method of mapping an annotation line to a surface.

For the foregoing reasons, allowance of the claims is respectfully solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Eric W. Petraske", written over a horizontal line.

by: Eric W. Petraske, Attorney
Registration No. 28,459
Tel. (203) 798-1857